

Appl. No. 10/713,178

Amdt. Dated November 23, 2005

Reply to Office Action of September 1, 2005

REMARKS

This is a full and timely response to the non-final Office action mailed September 1, 2005. Reexamination and reconsideration in view of the foregoing amendments and following remarks is respectfully solicited.

Claims 1-17 and 19-26 are now pending in this application, with Claims 1, 15, and 26 being the independent claims. Claims 1, 9, and 15 have been amended, Claim 18 has been canceled, and Claim 26 is newly presented herein. No new matter is believed to have been added.

Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 9 and 10 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Specifically, the term "a second" in line 2 of Claim 9 was allegedly unclear. In response, Applicants have amended Claim 9 to recite "a second end" to even more clearly define the invention.

In view of the foregoing, reconsideration and withdrawal of the § 112, second paragraph rejection is requested.

Rejections Under 35 U.S.C. § 103

Claims 1-25 were variously rejected under 35 U.S.C. § 103 as allegedly being unpatentable over JP09057482, JP359087999, GB 1,334,772, and U.S. Patent Nos. 2,074,629 (Ungar), and 5,151,095 (Teeple, Jr.). These rejections are respectfully traversed.

Independent Claim 1 relates to a hand-held laser fusion welding assembly for treating a workpiece that includes a hand-graspable main body, a nozzle coupled to the main body and through which laser light may pass and a laser reflection shield coupled to, and at least partially surrounding, either the nozzle or the main body, and recites, *inter alia*, the laser reflection shield constructed at least partially of a material that reflects at least a portion of the laser light that passes through the nozzle aperture and is reflected by the workpiece, and configured such that no section thereof surrounds any portion of the laser light once the laser light passes through the aperture.

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Ungar discloses an electric hand tool, such as a soldering iron, that includes a flange (3). As disclosed in col. 1, ll. 46-55, the flange (3) is used to elevate an end of the tool handle (2) and further serves as a heat barrier. Although the flange (3) does not surround the heat emanating piece of the tool, it is noted that the tool does not emit laser light, but merely emanates heat. Thus, it is clear that the flange (3) is not constructed at least partially of a material that reflects at least a portion of the laser light, as is recited in independent Claim 1.

Moreover, even if the tool disclosed on Ungar did emit laser light, the prior art, such as the art cited in the Office action and of record in the instant application, would suggest providing a shield that completely surrounds the emitted laser light. In particular, it is noted that JP09057482 discloses a YAG laser torch having a nozzle, and further including a shield that completely surrounds the laser light once it passes through the nozzle, and GB 1,334,772 discloses a laser device having a shield that completely surrounds the laser light once it passes through the nozzle. Furthermore, none of the other citations of record disclose, or even remotely suggest, a laser reflection shield constructed at least partially of a material that reflects at least a portion of the laser light that passes through the nozzle aperture and is reflected by the workpiece, and configured such that no section thereof surrounds any portion of the laser light once the laser light passes through the aperture, as is recited in independent Claim 1.

As regards independent Claim 15, this claim relates to a laser reflection shield for reflecting laser light that includes a clamp adapted to mount on a hand-held laser welding wand and a shield plate coupled to the clamp and recites, *inter alia*, the clamp having at least a front side and a back side and selectable from a plurality of differently shaped clamps, and the shield plate constructed at least partially of a material that reflects at least a portion of the laser light and selectable from a plurality of shields.

The Office action alleges that JP359087999 discloses replaceable shields. However, the disclosed shields (12c) form part of a gas shielding chamber 12, and are not disclosed as being useful for shielding of laser light. Moreover, Applicants submit that this citation, along with all the other citations of record, fails to disclose a clamp that is

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selectable from a plurality of differently shaped clamps, as is now recited in independent Claim 15.

With respect to newly presented independent Claim 26, this claim is directed to a hand-held laser fusion welding assembly for treating a workpiece that includes a main body, a nozzle, a laser reflection shield, and recites, *inter alia*, one or more proximity sensors coupled to the laser reflection shield, each proximity sensor configured to sense a proximity of the laser reflection shield to the workpiece and operable, in response thereto, to supply proximity signals representative thereof.

The Office action alleges that Tepple, Jr. discloses sensor means in a shield, and alleges that this supports the obviousness of the above-noted feature of independent Claim 26. However, Tepple, Jr. simply teaches a shield (10) that includes an insulating layer (13) having resistive properties that change when exposed to laser radiation, and that can be detected by an alarm device (25). Thus, Tepple, Jr. merely teaches providing some type of sensing device within a shield that will provide a signal indicating that the shield is being exposed to laser radiation. Nowhere does Tepple, Jr. disclose, or even remotely suggest, at least one or more proximity sensors coupled to the laser reflection shield, each proximity sensor configured to sense a proximity of the laser reflection shield to the workpiece and operable, in response thereto, to supply proximity signals representative thereof, as recited in independent Claim 26.

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the § 103 rejections.

Conclusion

Based on the above, independent Claims 1, 15, and 26 are patentable over the citations of record. The dependent claims are also submitted to be patentable for the reasons given above with respect to the independent claims and because each recite features which are patentable in its own right. Individual consideration of the dependent claims is respectfully solicited.

The other art of record is also not understood to disclose or suggest the inventive concept of the present invention as defined by the claims.

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Hence, Applicant submits that the present application is in condition for allowance. Favorable reconsideration and withdrawal of the objections and rejections set forth in the above-noted Office action, and an early Notice of Allowance are requested.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

If for some reason Applicant has not paid a sufficient fee for this response, please consider this as authorization to charge Ingrassia, Fisher & Lorenz, Deposit Account No. 50-2091 for any fee which may be due.

Respectfully submitted,

INGRASSIA FISHER & LORENZ

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